

Update on comparison between BeAGLE and E665

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y^* calculate

if charge<0 (assume are pi-)

Four vector in lab frame: $(p_x, p_y, p_z, \sqrt{p_x^2 + p_y^2 + p_z^2 + m_\pi^2})$ (p_x, p_y, p_z are MC truth, m_π is the mass of π)

do boost \longrightarrow four vector in cms frame $(p_x^*, p_y^*, p_z^*, E_\pi^*)$

if charge>1

Four vector in lab frame: $(\frac{p_x}{charge}, \frac{p_y}{charge}, \frac{p_z}{charge}, \sqrt{\frac{p_x^2}{charge^2} + \frac{p_y^2}{charge^2} + \frac{p_z^2}{charge^2} + m_p^2})$

do boost \longrightarrow four vector in cms frame $(p_x^*, p_y^*, p_z^*, E_p^*)$

p_x, p_y, p_z are MC truth, m_π is the mass of π , m_p is the mass of p

if 0<charge<= 1

Assume four vector in lab frame: $(p_x, p_y, p_z, \sqrt{p_x^2 + p_y^2 + p_z^2 + m_\pi^2})$

do boost \longrightarrow four vector in cms frame $(p_x^*, p_y^*, p_z^*, E_\pi^*)$

if $x_F = \frac{2p_z^*}{W} > -0.2$, $(p_x^*, p_y^*, p_z^*, E_\pi^*)$

if $x_F = \frac{2p_z^*}{W} < -0.2$, four vector in lab frame: $(p_x, p_y, p_z, \sqrt{p_x^2 + p_y^2 + p_z^2 + m_p^2})$

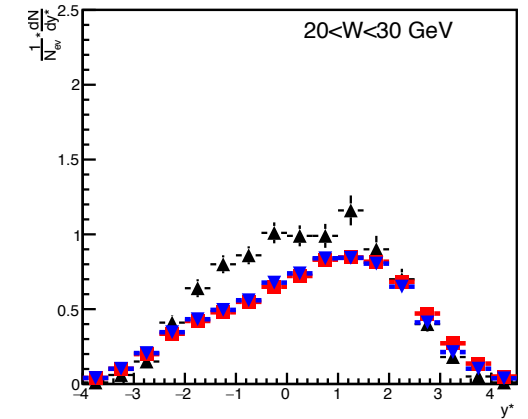
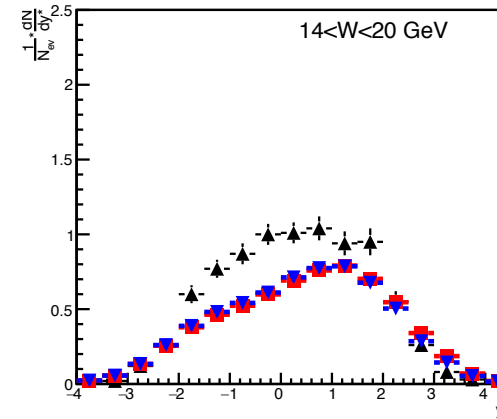
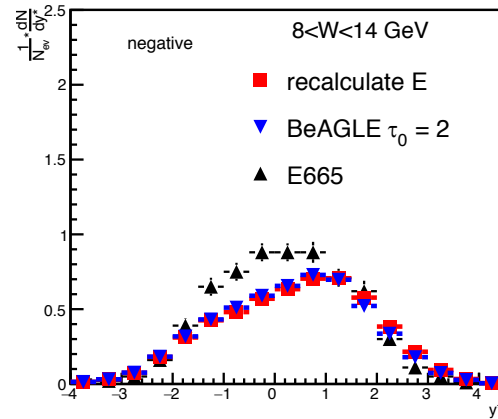
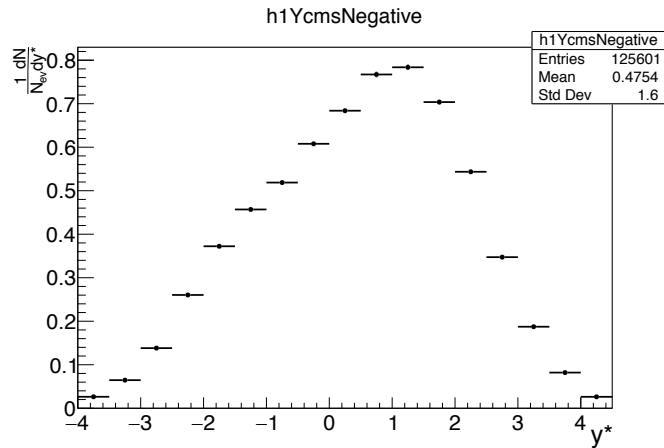
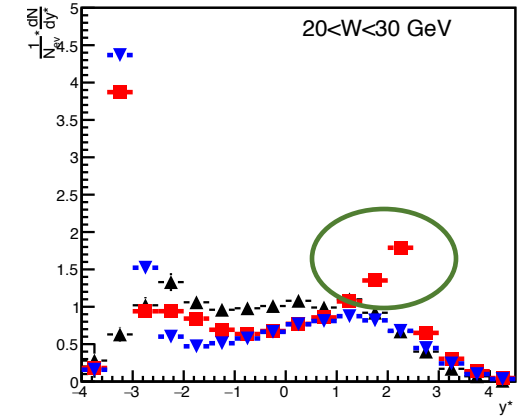
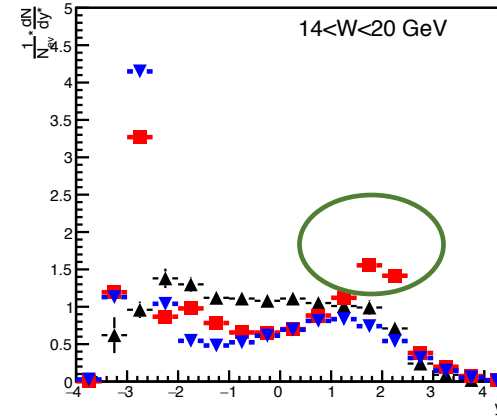
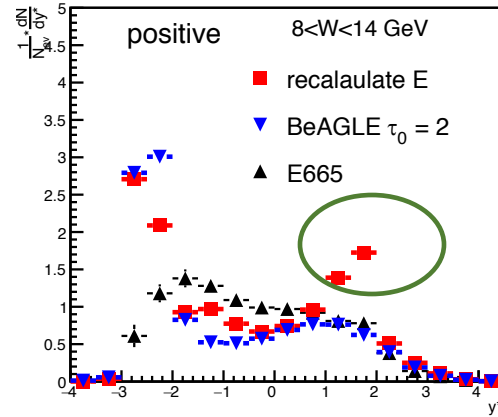
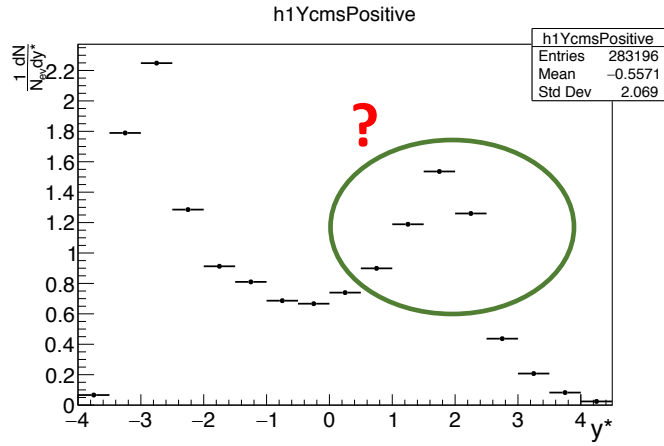
do boost \longrightarrow $(p_x^*, p_y^*, p_z^*, E_p^*)$

y^* distribution

$8 < W < 14 \text{ GeV}$

$14 < W < 20 \text{ GeV}$

$20 < W < 30 \text{ GeV}$



muD events

μ^+D 490x0 GeV 40K events

Kinematic cuts:

$$0.1 < y < 0.85$$

$$1.0 < Q^2 < 100$$

$$0.0035 \text{ rad} < \theta < 6.29 \text{ rad}$$

$$8 < W < 30 \text{ GeV}$$

$$X > 0.002$$

